

Marked up version of amended paragraph and claim in attached Amendment.

Docket No.: 79-00
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The paragraph bridging pages 3 and 4:

The present invention further provides chelon proteins which bind heavy metal ions, including but not limited to divalent cadmium and mercury ions, as well as cobalt, copper, lead, nickel and zinc cations, with relatively high affinity. The amino acid sequence of a mercury-specific chelon is disclosed in Table 1D, and the nucleotide sequence encoding it is present in Table 1C. Additional chelons which bind both mercury and cadmium ions with high affinity are disclosed in Table 2. The chelon proteins can be within cells or on the surfaces of the cells in which they were produced, for example, for use in methods of concentrating heavy metal ions from a contaminated aqueous environment, or waste stream, or the chelon proteins can be immobilized onto a solid support for use in removal of heavy metal ions from a contaminated aqueous medium. The MerR protein can also be produced for *in situ* metal ion binding, or it can be purified and immobilized to a support material.

10. (Once Amended) A method for removing divalent mercury, divalent cadmium, cobalt copper, lead, nickel or zinc cations from a source comprising divalent mercury or cadmium cations, said methods comprising the step of contacting the source with a MerR or chelon protein, whereby the MerR or chelon protein binds the divalent mercury, divalent cadmium, cobalt, copper, lead, nickel or zinc cations.